February 9, 2009

MEMORANDUM **UTAH DEPARTMENT OF TRANSPORTATION**

TO: Jim McMinimee, P.E., Chairman

FROM: Barry Axelrod
Recorder, Standards Committee

Barry Axelrod

Digitally signed by Barry Axelrod
DN: email=baxelrod@utah.gov, c=US, st=UT, l=Salt Lake City, ou=http://www.usertrust.com/cps, cn=Barry Axelrod
Reason: I attest to the accuracy and integrity of this document
Date: 2009.02.09 13:25:36 -07'00'

SUBJECT: Standards Committee Meeting Minutes and Next Meeting

The next meeting has been scheduled for Thursday, February 26, 2009 at 8:00 a.m., in the main 1st floor conference room of the Rampton Complex.

Item		**Remarks**	**Sponsor**
1.	Minutes of October 30, 2008	For approval	Barry Axelrod
2.	Supplemental Specification 03055, Portland Cement Concrete	For approval (doc page 23)	Bryan Lee John Butterfield
3.	Informational item for Bulb Tee Girder Standards	For discussion (doc page 44)	Fred Doehring
4.	Lateral Offset to Obstruction Direction	For approval (doc page 48)	Robert Miles
5.	Review of Assignment/Action Log	For review (doc page 19 & 58)	Jim McMinimee
6.	Meeting Improvements (on-going agenda item)	For discussion	Jim McMinimee
7.	Other Business	For discussion	Jim McMinimee

JCM/ba
Attachments

cc:

Cory Pope Director, Region One	Stan Burns Engineering Services	Robert Miles Standards
Randy Park Director, Region Two	Fred Doehring Bridge Design	Barry Axelrod Standards
David Nazare Director, Region Three	Greg Searle Construction	Patti Charles Standards
Nathan Lee Director, Region Four	George Lukes Materials	Shana Lindsey Research
	Richard Clarke Maintenance	Tracy Conti Operations
	Robert Hull Traffic and Safety	FHWA Bryan Dillon
	Michael Adams Traffic Management Division	Mont Wilson AGC
	Brad Humphreys Region 1, Preconstruction	Tyler Yorgason ACEC

October 30, 2008

A regular meeting of the Standards Committee convened at 8:00 am, Thursday, October 30, 2008, in the Project Development Conference Room, 4th floor, of the Rampton Complex.

Members Present:

Jim McMinimee	Project Development	Chairman
Robert Miles	Preconstruction, Standards, and Local Government	Secretary
Barry Axelrod	Preconstruction, Standards, and Local Government	Recorder
Stan Burns	Engineering Services	Member
Brad Humphreys	Region 1, Preconstruction	Member
Kris Peterson for Greg Searle	Construction	Member
Richard Clarke	Maintenance	Member
Robert Hull	Traffic and Safety	Member
George Lukes	Materials	Member
Fred Doehring	Bridge Design	Member
Mont Wilson	AGC	Advisory Member
Tyler Yorgason	ACEC	Advisory Member

Members Absent:

Greg Searle	Construction	Member
Anthony Sarhan	FHWA	Advisory Member

Staff:

Patti Charles	Preconstruction, Standards, and Local Government
Bryan Lee	Materials
Wes Starkenburg	Traffic and Safety
Glenn Schulte	Traffic and Safety
Mark Elieson	Standards
Shana Lindsey	Research

Visitors:
None

Standards Committee Meeting

Minutes of the October 30, 2008 meeting:

1. Minutes of August 28, 2008 meeting were approved as written.

   Discussion points were:

   - None.

   Motion: Robert Hull made a motion to accept the minutes as written. Seconded by Fred Doehring.

   Discussion points were:

   - Jim commented on the discussion he had with Robert Miles and Barry Axelrod on the new business from the last meeting. Barry said the discussion centered around who the item applied to and what it meant.

   - Jim said the item was related to developing western regional specifications that were more like the AASHTO specifications. He said the idea would be to allow more competition by having a more standard specification.

   - George added that they have already posted an M 320 specification to use at RME discretion and is the result of asphalt shortages.

   - Jim asked if something needed to be added to the minutes so the paragraph was more reflective of the discussion or didn't we need to. George said it was at the end of the meeting and that it is something they are working on. Barry said the documentation in the minutes for the current meeting should cover it instead of amending the previous minutes. Jim said he was fine with that approach.

   - There was no further discussion.

   Motion: Passed unanimously.

2. Supplemental Specification 00727M, Control of Work and UDOT Policy 08-6, Use of Corporate Logos and Branding (Agenda Item 2) – Presented by Stan Burns, Robert Miles, and Barry Axelrod.

   Stan thanked Robert and Barry for the work on this item. Stan asked Barry to present the information.

Barry said they met with the UDOT lawyer, Andrew Cushing, to discuss the wording of the specification and policy. Barry said they also discussed the general information so that Andrew understood the direction being taken. Barry said the main focus was on the use of the word “deliverable.” Barry said that Andrew was comfortable with the overall concept being laid out, but did have a word recommendation. That recommendation was included in the specification and policy wording.

Barry said the added wording was “physical features with the project limits” and they then spent considerable time discussing this wording. Barry said they didn’t do any coordination follow up after the change because the concept hadn’t changed and there were no major changes. Barry added that this fit with comments they had received during the initial coordination.

Discussion points were:

- Randy said one of the issues we are always facing is that we tell them they can’t put it on UDOT physical features so they are putting in their own physical features. Randy said he was a little confused between the policy and the control of work specification.

- Stan commented on contractor items that are within the project limits. Randy then commented on those attached to vehicles. Barry said that is covered by the next paragraph in both the policy and specification. (“Logos and branding identification other than those permanently attached to vehicles, equipment, and apparel are prohibited.”)

- Barry said if the wording or change does not work then the issue can be looked at again and a modification made. He said this has always been the case with Standards Committee changes.

- Randy went on to comment on branding, giving the example of “Innovate 80.” He asked if this eliminated those opportunities. Jim asked what impact this change would have on “Innovate 80.” Stan said that is UDOT initiated, not contractor. Stan said if it is in the contract then it is under our direction and that he didn’t see a problem.

- Barry said one of the things they tried not to do was list to many things where an omission leaves an opening. Barry said that was also discussed with Andrew Cushing. Barry said they wanted to be generic enough to cover ourselves, but not have too much information to cause problems. Jim said if you leave too much interpretation then you have problems with standardization.

- Jim asked about the wording and if there is a better way to state the requirement. Robert Miles deferred to Patti Charles as the expert in that area. Barry referred to the Consultant memo in the package where the same wording has been used for a couple of years.

- Randy asked about the containers with the contractor logo. Comments indicated if permanently attached than it would be allowable. Barry said that goes along with trying to prohibit having the company name on the door of a truck.

- Stan said he thought this would be revisited again. Jim agreed.

- Fred went on to ask if we want to identity what a physical feature is. Mont suggested adding the word “project” with “physical feature” in the specification. As a note the policy already had that wording. Barry indicated that both should have had the same wording.

- Referring to the Comment Form (item 4), Jim said that Brad Humphreys’ comment brought up an interesting point in relation to eliminating confusion on one hand, but on the other increasing quality. Jim asked Mont if the AGC had any discussions along those lines. Mont said the AGC in general supports banning everything as long as it doesn’t impact logos on their trucks. Jim asked if the pride goes away if we ban those banners.

- Mike Adams said that they have various message signs that come with a corporate logo already on the item and are being installed that way. Several other type items were brought up on supplied items. Fred said he didn’t think the intent of this policy and specification was ever to cover that situation. Glenn said crash cushions include manufacturer information so the particular items can be tracked.

- Stan said we are never going to solve all these issues, but the intent as Kris said is no advertising. Stan said the biggest offender is dropping banners as the bridge moves down the road. He said if we can solve some of these problems then we are ahead.

- There was no further significant discussion.

Motion: Kris Peterson made a motion to approve Supplemental Specification 00727M and UDOT Policy 08-6 as discussed and modified. Seconded by Brad Humphreys. Passed unanimously.

3. Supplemental Specification 03055, Portland Cement Concrete (Agenda Item 3) – Presented by Bryan Lee.

Bryan said this item was initially discussed in the August meeting and that there were a couple of items that didn't have time to address before the meeting. Bryan said they removed the references to self-consolidating concrete because they didn't think it belonged there in that it is a specialty item. Bryan said the second issue was fly ash. He said fly ash was used in the past as a filler in the mix design and can now be used as an option. Bryan said those were the two new issues.

Discussion points were:

- Jim said that at the last meeting there was some discussion on another meeting relating to cure time. Bryan said they added cold and hot weather limitations, adding the limitations are pretty general. Bryan said that is by intent because they have a cure specification that covers it.

- Jim said he also remembers a discussion on high early strength concrete with higher bag mixes. He asked if this specification addressed those. Bryan asked in what respect, adding that he didn't remember anything on it. Stan said they have a QIT where they are looking at precast elements and the ramifications of curing, high early strengths, and the impacts on this specification. Stan said John Butterfield is heading up the rewrite of that. Stan said whatever they come up with will result in going back to look at this section. Stan said the intent is to make them the same. Bryan said they are close.

- Mont asked why approve this one only to come back again and change the section. Bryan said he wasn't sure that specification would have a lot of influence on this one in that it would be pretty specific to bridge decks and those kinds of issues.

- Jim asked if we are ever to do pre-cast concrete pavements like is being done in some places would that be under our structural concrete specification or this specification. Bryan said under pre-cast specifications we have, but PCC would be involved some.

- Stan commented about the pay factors and whether there is a penalty if strengths are too high, too early. He asked if that would change the information in 1.6 Acceptance in Section 03055. Bryan said no, it would be covered in pre-cast.

- Jim asked if we miss out on anything if we wait to see if there is a conflict between the specification being developed and this one. Bryan said he didn't think so and that John is working on both of them so he thought John was trying to make them compatible. Jim said what he is asking is it okay to delay approval of this specification until the other one is ready and then do both at the same time. Barry reminded everyone the next meeting is not until February 2009.

- Kris asked about timing issues. Barry went on to explain the publishing cycle and the priority rating. In response to a comment Bryan said the fly ash issue is the only added issue that we haven't discussed. Kris then asked if we can wait a few months to approve this section. Bryan said the limitations are also an issue and in fact John has already received some problems on cold weather issues.

- Fred said on the other hand if we do approve this now and get it out in a few jobs we may learn some other things we may want to change in a few months anyway. Stan asked if that is confusing to the contracting industry if we change things in a short period of time and then change them again.

- Kris commenting that the critical issue is the weather limitations asked if we could in lieu of publishing the entire specification, while we work out the other issues, publish a modification. Barry said they could do a modification for whatever part of the specification is needed, but said there is no reason why this specification can't be used as a Materials Special Provision. Barry added that it could be published right now as a Materials Special Provision based on how those are set up and implemented. Barry went on to explain the Materials Special Provision use process. Barry said in February or whenever approved the Special Provision would then be removed. Barry said that is what we have talked about over the last several years about using a specification for a while before bring it to the Committee for approval as a Standard.

- George pointed out one other item in the recommended change. He said the requirements of American Concrete Institute (ACI) Standard 301 was put in for mixes greater than 4000 psi. George said right now for mixes under 4000 there is not any history of batches used in the last year that can be used to lower the requirements for test batches. He said data bases can now do that and in all likely hood lower or eliminate the requirements for trial batching. George said it looks like that will also make less expensive mixes as well. George said this is a good reason why this change needs to go out now either as a Standard or a Special Provision.

Motion: Kris Peterson made a motion to not approve this as a change to the existing Standard, but place it as a Special Provision on the Materials Web site for use on projects as determined by the Materials Division and that it come back to the Standards Committee as such time that the other associated specifications are developed. Seconded by Stan Burns. Passed unanimously.

Action Item: Materials Division to develop Standards for pre-cast concrete specifications and determine impact on Section 03055 proposed change.

4. Standards Committee Development Process for New Standards (Agenda Item 4) – Presented by Barry Axelrod.

Barry said he discussed this with Stan Johnson and they didn't think there were a lot of changes from his aspect. Barry said they looked again at the process, with Stan talking to a few of those he initially worked with in developing his initial flow chart. They didn't have any issues. Barry said most of the coordination Stan did to start covers just the first step on the flow chart as mentioned at the last meeting. Barry said once it gets into the main part of the flow chart it now falls under the Standards Section, not Research.

Barry said that is how they do business every day, with the flow chart formalizing the process on how things are brought forward. Barry said it has always been this way but was not on paper for people to look at in this way to this extent. Barry said Stan was comfortable with what we had.

Barry said he discussed it with Robert Miles and they are comfortable with what was presented last time.

Discussion points were:

- Shana commented about including or doing something but the minutes recording was not clear as to the requirement.

- Referring to the lower left portion of the flow chart Fred commented that the requirement was an infinite loop and needed a way to terminate if we didn't want to continue to evaluate the item. Fred recommended a decision point below the "Document results/Revise" option. He said if the option is to not continue to evaluate then the path would be to the "Terminate process" point. Barry said he has it and that they may have left that out. George pointed out a possible path out. Barry said they would take care of it. George's option covers the process if the Standards Committee wants to review or approve, but not if they don't. The option is still there to continue to evaluate, but if that choice is no, then a termination point is needed.

- Barry said they also updated the Standards Committee policy to include this as part of the policy. Barry said the wording in the policy was updated to incorporate the flow chart.

Motion: Fred Doehring made a motion to approve the Standards Development Process and UDOT Policy 08A5-1 as discussed and modified. Seconded by Robert Hull. Passed unanimously.

5. Barrier Offset Related Standard Drawings (Agenda Item 5) – Presented by Robert Miles.

Robert said the point is to move away from including a two-foot barrier offset once the shoulder width reaches 12 feet or wider unless needed for another reason such as sight distance. Robert said notes were updated to cover this option as were details on the drawings. Robert said this should save us money.

Discussion points were:

- Jim asked Robert to quantify the savings. Robert said based on a recent "add-a-lane" project this would have saved us about 1.8 percent, or just over one million dollars.

- Someone asked if less then 12 feet then do we still have the 2-foot offset. Robert said yes.

- Stan asked if this change was less than AASHTO Standards. Robert said no. Stan said we then meet or exceed them. Robert went on to explain that in the AASHTO "The Policy for Geometric Design for Highways and Streets" it comes out as a suggestion, not a requirement.

- Randy asked it you can go less than 12 feet. The response was not understandable.

- Glenn said they did a lot of cleanup on the drawing to make them easier to use.

- There was no further discussion.

Motion: Robert Hull made a motion to approve Supplemental Drawings BA 1D, BA 1E, BA 4E1, BA 4E2, BA 4L, CC 5A, CC 5B, CC 5C, CC 7A, CC 7B, CC 8A, CC 8B, CC 9A, CC 9B, DD 8, DD 9, and DD 17 as presented. Seconded by Randy Park. Passed unanimously.

- In relationship to Department efficiencies Jim suggested pointing out whoever came up with this idea and did the work as an incentive bonus. Jim said this was a great idea.

- Robert then recognized Mark Elieson as their new drafting technician. Robert said Mark put a lot of hard work in to get these drawings out as did Barry.

6. Supplemental Drawing BA 3C1 and BA 3C2, Precast Constant Slope Barrier (Agenda Item 6) – Presented by Glenn Schulte.

Glenn said this is bringing back the item from a year ago when the Standard Drawing was removed. Glenn said these drawings were developed with the help of FHWA and information from other states. Glenn said he also worked with four of our major manufacturers. He said this gives another option to use.

Discussion points were:

- Randy asked if these are totally new drawings. Glenn indicted they were.

- Jim asked if these were new because we didn't have the connection details that had passed testing. Glenn said they had the connection details and that is was because in the Fall of 2007 we couldn't get any manufacturers to make the barrier.

- Glenn said the "X" connection out of Texas was going to cost us almost as much as the cast-in-place. Glenn said he looked at other states. He said Ohio uses a 50 inch barrier with a four inch connection as did Pennsylvania. Glenn said he adopted their design and went on to explain his coordination process. He said he sent it to DC on several occasions and got their "almost" blessing on it. He said an evaluation is being done, but we can use it. Glenn said he didn't see any problem with that evaluation.

- Glenn said another option is to send it to one of the testing areas, but he didn't think that should be done. Glenn said it has been tested by Ohio.

- Glenn said this barrier is 15 feet long compared to our Jersey barrier that is 20 feet and is based on what maintenance can handle. Discussion continued on the lengths with comments by Fred and Shana. Glenn said he was always told that maintenance could pick up a 20 foot Jersey barrier but not a 20 foot constant slope barrier so that was why he went to the 15 foot length.

- Richard Clarke said the issue was whether we could pick them up or not so that was why they down-sized them. Both Randy and Shana indicated didn't think we could pick up a 20 foot Jersey barrier. Randy added that he has never seen it done and that we hire contractors to do it. Randy said it would be nice to have the same length for all types.

- Stan indicated we still have some 12.5 foot barrier and that we will never go to a 20 foot constant slope barrier.

- Glenn said the 15 foot constant slope barrier matches the 20 foot Jersey barrier weight wise. He added that a 20 foot constant slope barrier weighs about 15,000 pounds.

- Kris asked about the cost of the barrier and how sure are we this time that it is something we can afford. Glenn said he couldn't address that because he didn't do the work on the last one. Glenn said that version was passed, but then we started getting complaints from suppliers that they couldn't build it. Glenn said he thought the cost was substantial and was around $85 per foot plus hardware.

- Glenn said he coordinated with several suppliers and worked out all issues. Glenn said only one supplier provided a construction cost and that was around $48 per foot.

- Kris commented about the FHWA comments. Discussion continued on crash testing.

- Stan asked about the comments from Five Diamond. The comments indicated this new design would cost them money and that new forms would be needed. Glenn said he could never get in contact with them to follow up. Glenn said that they thought we were going to eliminate the Jersey shape completely. Glenn said that is not the case and that the new design is just an option. He said they can bid on the new shape or not and that is their choice.

- Glenn said he never did get any comments back from Duracete even though they are building this option to replacements in two regions.

- Stan, referring back to comments from Robert Miles earlier that no one wanted to produce the barrier, asked if there are sufficient suppliers now. Glenn said there are at least two.

- Randy commented that he thought most of the barrier we put in now is cast-in-place constant slope. He added that once we have a pre-cast option it will be great.

- Discussion continued on shorter lengths. Glenn said you will get more slide on the shorter lengths. Kris asked why not stay consistent with lengths and go with a 20 foot length. Fred commented that types would not be mixed so the length wouldn't matter from that standpoint. Kris commented that there are some 20 foot lengths now of the constant slope barrier. Glenn said we aren't producing any more 20 foot ones except for replacements. Glenn said the drawing could be revised if needed.

- Robert Hull said they developed the drawing at the request of maintenance so if there are issues they need to be discussed with maintenance. Richard Clarke said he didn't remember all the reasons but they ended up with the 15 foot sections.

- There was no further discussion.

Motion: Stan Burns made a motion to approve the Supplemental Drawings BA 3C1 and BA 3C2 as presented. Seconded by Richard Clarke. Passed unanimously.

7. Supplemental Drawing TC 4E, Project Notification Sign 5 ft x 3 ft, 10 ft x 5 ft, and 12 ft x 8 ft and TC 4F, Lane Gain Project Notification Sign 5 ft x 3 ft, 10 ft x 5 ft, and 12 ft x 8 ft. (Agenda Item 7) – Presented by Wes Starkenburg.

   Wes said that these types of signs are currently being used on projects with the designer including pertinent information. He indicated these two signs would standardize the process.

   Discussion points were:

   - Randy commented that these signs started out as something eye-catching to attract public attention as to what UDOT is accomplishing and when it will be done. He said it has now gone generic, something we could just engineer.

   - Jim asked if there were any comments that addressed the aesthetic quality of the signs, adding the only comments he saw were technical.

   - Jim asked Wes to talk them through the aesthetic considerations that went into creating these signs. Wes said not really, adding that when he got involved the layout was already there. Robert Hull added that at times they have to rely on other people. Robert went on to say the reason the drawings look engineered is because they have to be to meet the requirements of the MUTCD.

   - Randy went on to say that he thought these signs have very little value compared to the original intent.

- Jim asked if the drawings were covered in sheeting or if it something temporary. Wes's response was not understandable. Jim then commented about the signs lasting 10 - 20 years. Shana asked if there is a lower grade that doesn't last that long. Robert said no, adding that the lower grade is for other needs. He said there are other issues and that we don't want to go there.

- Fred commented on a mandate that these signs are required on every project, then asking where that comes from. Barry said that he thought Fred was asking what is the benefit of having the sign versus not having it. Randy said the first few we put out were eye-catching and really effective. He said we then got to a point where the signs were standard and every project had a different one.

- Fred asked again if we are mandated to put up the sign and if there is a policy. Shana said it is public relations. Fred said he understands what is going on and that it is a marketing issue. Fred went on to say we now have a bland, generic sign, asking if it still meets the original goals. He said if we make it a Standard we will forever have it on the books.

- Jim asked how much the signs cost on average. Jim said they compiled a list of all the lane gain projects the other day and there are 162 general fund projects. He said that would be a good chunk of money.

- Stan asked if there is a problem going back to the cool stuff. Response indicated the MUTCD. Randy asked if there is still a way to have a Standard, but put a better effort into making the signs more eye-catching in conjunction with the MUTCD. He said he doesn't see why the message can't be the same, but just something with the color.

- Robert Hull said with the current budget issues this may be an unnecessary expense and that there may be other ways to get the message out without spending money on a sign.

- Jim said if we don't approve this we still have projects with specifications that have signs in them, right. Robert Hull said yes, indicating he was talking about the future. If we have budget issues, why are we spending money on these signs?

- Randy said if this is all we can do then maybe we need to nip it in the bud, but if we can make them better it would be $20,000 well spent.

- Jim asked if there is any kind of cost - benefit analysis. He said advertising is worth something in a free market. He said there must be some way to quantify what we are getting at on this. Wes said cost - benefit wasn't part of what they were getting at and that he was tasked to take something they already had and make it a Standard. Wes said he was fine if the decision was not to make these a Standard.

- Shana said some projects may be more of a benefit, but if you make it a Standard then you are saying do it on every project. Fred asked what are the criteria on getting these installed. Fred said every project we build would have one of these signs. At this point there were several discussions going on at the same time or too soft spoken to understand.

- Randy asked if anyone has seen this sign before. There was at least one yes. Someone commented that other states have similar signs.

- Fred suggested a motion to table Supplemental Drawing TC 4E and TC 4F and to investigate whether we want to continue or not.

- Jim said he and Randy have an opportunity to talk to the Technical Committee about this. He said that would be a good place to get some Department policy recommendations on it and go from there. Fred said maybe there could be some guidance on when to use or not. Jim said they would report back to Wes.

Motion: Fred Doehring made a motion to table Supplemental Drawing TC 4E and TC 4F until Jim and Randy have a chance to get more guidance. Seconded by Kris Peterson.
Passed unanimously.

Action Item: Jim McMinimee and Randy Park to discuss requirements with Technical Committee and then provide Wes Starkenburg with direction. Wes then to complete process if direction is to proceed.

8. Review of Assignment/Action Log (Agenda Item 8)

Jim asked Barry to cover the action log.

- **Item 1: Review process for Standards.** Barry said this was approved under agenda item 4. Item closed.

- **Item 2: Supplemental Specification 00727M, Control of Work and UDOT Policy 08-6, Use of Corporate Logos and Branding.** Barry said this was approved under agenda item 2. Item closed.

- **Item 3: Supplemental Specification 03055, Portland Cement Concrete.** Barry said this was discussed under agenda item 3. The item will be used as a Special Provision. Target date: None. Item close. When the Special Provision is ready to become a Standard it will be processed as a new item.

- **Item 4: Form a committee to look at concrete specifications requirements for ABC.** Barry said this item and the next were covered under the discussion in agenda item 1. Stan asked what is needed and when to make the February meeting. Barry said from when we have a meeting, back off five weeks to get an item into coordination and to them for the agenda package. For the February meeting it is around mid-January. Stan said they would have something for the February meeting.

- **Item 5: Provide an asphalt specification update on new direction.** Barry said this item was covered under the discussion in agenda item 1. No comments or direction were provided. Item closed. If further action should become necessary it will be processed as a new item.

- The status report as handed out at the October 2008 meeting follows:

Action Item Update for October 30, 2008 Standards Committee Meeting

Item 1, Standards Committee Review Process. Item on agenda.

Item 2, Supplemental Specification 00727M, Control of Work and UDOT Policy 08-6, Use of Corporate Logos and Branding. Item on agenda.

Item 3, Supplemental Specification 03055, Portland Cement Concrete. Item on agenda.

Item 4, Concrete Specification Requirements for ABC. Stan Burns reported they formed a committee and had several meetings on the new Precast Concrete spec with several more to go. End of year should be a good target date. The next meeting is not until February 2009.

Item 5, Asphalt Specification Update. Due October 2008. George Lukes did not know what this item was about. Hopefully someone at the October meeting will have more information.

9. Meeting Improvements (on-going agenda item) (Agenda Item 9): Jim asked if anyone had any meeting improvement suggestions.

Jim commented on the comment form provided in Wes's agenda item. Jim said there were a lot of comments and that the process seems to be working very well. Referring to the approximately 40 comments on the form, Jim said it amazes him that we can get that much participation on an item like that. Jim said it is a testament to the process we have in place.

Barry said the only thing they ask is for people to get their comments in on time to cut back on follow ups. He said if you don't have any input, send them that fact. Barry said this has been discussed in meetings with Jim and at previous Standards Committee meetings. Barry said he didn't know how much extra time Glenn or Wes spent getting their comments, but they spent hours up to and past the deadline trying to contact people and then make the needed changes. Barry said some of those comments were significant so that delayed their entire process. Barry requested help in getting comments back to everyone on a timely basis. Barry said it is a great process and if we didn't have it there are items or changes that would definitely be missed. He said we could end up putting out bad or incorrect information in the changes without this process.

10. Other Business:

- Jim said he made two extra assignments extracurricular to the Standards Committee, but is something you will see a lot of here. Jim said Carlos asked them to revamp and revisit our efforts on Value Engineering. Jim said one of the things that occurred to them also came up in Robert Miles' review today of our shoulders. Jim said it would be beneficial to the Department if there was a programmatic way for us to review our Standards, to look for ways to be more frugal. Jim said he asked Shana Lindsey to investigate what other states are doing to be more frugal with projects. He said Missouri has an effort they call "Practical Design." Jim said Shana will be looking at that and then coming to the Department with a process on how to implement that kind of a program.

- Jim said the second thing is that he asked Robert Miles to lead a QIT that looks specifically at Standards and for ideas like what he came up with on shoulders. He said to talk with Maintenance and Construction folks, the people out in the field actually building and maintaining projects and look for general ideas and safety ideas that make sense and make our projects cost effective.

- Barry said he would create two open ended action items so these could be tracked.

Action Item: Shana Lindsey to investigate what other states are doing to be more frugal with projects.

Action Item: Robert Miles to lead QIT to look at Standards with the goal to make project more cost effective.

A motion was made, seconded, and approved to adjourn.

The next regular meeting of the Standards Committee has been scheduled for Thursday, June February 26, 2009, at 8:00 a.m., in the 1st floor conference room of the Rampton Complex.

Approval of Minutes: The foregoing minutes were approved at a meeting of the Standards Committee held _____, 2009.

Assignment/Action Item Log

Date Initiated/Updated	Item #	Action	Assignments	Status	Target Date
August 28, 2008 October 30, 2008	1	- Form a committee to look at concrete specification requirements for ABC. - Committee has met several times. Something will be put together for the next meeting.	Stan Burns Richard Miller	Open	February 2009 meeting.
October 30, 2008	2	Materials Division to develop Standards for pre-cast concrete specifications and determine impact on Section 03055 proposed change.	George Lukes Bryan Lee	Open	February 2009 meeting possible.
October 30, 2008	3	Supplemental Drawing TC 4E, Project Notification Sign and TC 4F, Lane Gain Project Notification Sign. Discuss requirements with Technical Committee and then provide Wes Starkenburg with direction. Wes then to complete process if direction is to proceed.	Jim McMinimee Randy Park Wes Starkenburg	Open	February 2009 meeting possible.
October 30, 2008	4	Investigate what other states are doing to be more frugal with projects.	Shana Lindsey	Open	As required.
October 30, 2008	5	QIT to look at Standards with the goal to make project more cost effective.	Robert Miles	Open	As required.

Closed Items From Last Meeting (October 30, 2008)					
Date Initiated/Updated	Prior Item #	Action	Assignments	Status	Target Date
April 24, 2008 August 28, 2008 October 30, 2008	1	- Review Process. Develop a plan for the review of new technology by the Standards Committee. - Coordinate the updated flow plan with those having the initial input and determine appropriate wording for the Standards Committee policy. - Item approved.	Shana Lindsey Stan Johnson BarryAxelrod	Closed	Closed
August 28, 2008 October 30, 2008	2	- Supplemental Specification 00727M, Control of Work and UDOT Policy 08-6, Use of Corporate Logos and Branding. Update wording to meet discussion requirements. - Item approved.	Stan Burns Robert Miles Barry Axelrod	Closed	Closed
August 28, 2008 October 30, 2008	3	- Supplemental Specification 03055, Portland Cement Concrete. Look in to the wording changes discussed in the meeting. The change will be taken to the Region Materials Engineers for review and the section updated accordingly. - Committee voted to not approve as a Standard and to use as a Materials Special Provision while additional changes are considered. A new action item was opened for these changes.	John Butterfield	Closed	Closed

August 28, 2008 October 30, 2008	5	- Provide an asphalt specification update on new direction. - No comment or direction provided during discussion. If further action should become necessary it will be processed as a new item.	George Lukes	Closed	Closed

Standards Committee Agenda Items Section

Submittal Sheets, Supplemental Specification Drafts, Standard Drawing Drafts, and other supporting data as required for the February 26, 2009 Standards Committee meeting follows.

Standards Committee Submittal Sheet

Name of preparer: John Butterfield
Title/Position of preparer: Region 2 Materials Engineer
Specification/Drawing/Item Title: Portland Cement Concrete
Specification/Drawing Number: 03055

Enter appropriate priority level:
(See last page for explanation) **3**
Sheet not required on editorial or minor changes to standards. Check with Standards Section.

NOTES:
1. All Submittal Sheets must be completed and sent to the Standards Section by the Standards Committee suspense date as shown on the Web. (http://www.udot.utah.gov/go/standardscommittee)
2. The Preparer of the Submittal Sheet or the Standards Committee member (or authorized substitute) responsible for the submittal must be present at the Standards Committee meeting and capable of discussing and answering all questions related to the submittal. The item will be postponed to a later meeting if one of these people is not present.
3. Notify the Standards Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

- Supplemental Specification 03055 was reviewed by the UDOT Standards Committee on August 28. Subsequent to that review, some sections of the supplemental were modified. Please note specifically section 3.3 - Mix design changes to use of fly ash and mitigation of ASR. Also references to self-consolidating concrete have been removed. This supplemental is again being submitted to address those changes.

The following changes were addressed in the August Meeting:

- Clarifications of mix design submittal and approval process, including quality assurance requirements for testing personnel and laboratories.
- Corrections of typographical errors, grammatical errors, and incorrect table references.
- Addition of hot and cold weather limitations inadvertently left out of the 2008 standard. The added limitations are similar limitations already specified in the 2008 standard 02752 PCC Pavements, but necessary in 03055 to cover itmes other than pavements.

There were no changes from the October 2008 meeting where this was approved as a Special Provision. It is now being submitted as a Supplemental Specification.

B. Measurement, Payment, Acceptance, and Documentation:

1. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

   Existing.

2. How is Acceptance and Documentation handled? Existing (from the acceptance and documentation document), modified, or new acceptance and documentation to be included with all Standard Specifications or Supplemental Specifications. Include Contractor Submittals, Inspection Elements, and Documentation.

   Existing – in accordance with the Minimum Sampling and Testing Requirements

C. Stakeholder Notification for AGC and ACEC:

   By email provide the AGC and ACEC Standards Committee member a copy of all pertinent information relating to the specification or drawing. Detail all responses below. Indicate if no comments were received.

Note: There is a two-week response time set for this item.

Refer to the Standards Committee Web site, Members page at http://www.udot.utah.gov/main/f?p=100:pg:::1:T,V:659 for the respective e-mail addresses.

AGC Comments: (Use as much space as necessary.)

See Comments form. Comments addressed in August meeting.

ACEC Comments: (Use as much space as necessary.)

See Comments Form. Additional comments submitted and addressed in items 18 and 19 of the comments form.

D. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

Note: There is a two-week response time set for this item. Allow Stakeholders two weeks to process and respond to coordination requests. All areas should try to complete review and comment as soon as possible but within two weeks.

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

Construction Engineers

Notified – no additional comments

Contractors (Any additional contacts beyond “C” above.)

Notified – no additional comments

Suppliers

Notified – no additional comments

Consultants (as required) (Any additional contacts beyond “C” above.)

FHWA (To be accomplished as part of the two-week process before submitting to the Standards for inclusion on the Standards Committee agenda.) (This is in addition to the requirements of UDOT Policy 08A5-1, procedure 08A5-1.3.)

See Comments. Notified. No additional comments

Others (as appropriate)

E. Other impacted areas, systems, or personnel. (Consider all impacts and possible changes to these areas during the preparation process. Coordinate with all appropriate areas for the respective item. List all impacts and action taken.)

1. Minimum Sampling and Testing Requirements

   Not impacted

2. Business Systems (Electronic Bid System, Project Development Business System, Electronic Program Management, Computer-Aided Drafting and Design, etc.)

   Not impacted

3. Implementation Plan (Provide detailed instructions on how the subject item will be implemented to include notification of all interested parties and training requirements.)

   All interested parties (AGC, RME’s, Construction, Pavement Council) will be contacted upon approval.

F. Costs? (Estimates are acceptable.)

1. Additional costs to average bid item price.

None.

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

3. Life cycle cost.

G. Benefits? (Provide details that can be used to complete a Cost – Benefit Analysis.) (Estimates are acceptable.) (If no costs, what is the benefit of making this change?)

Benefits of the change are to clarify the language of the specification and to address issues such as extreme weather conditions that were not previously included.

H. Safety Impacts?

None.

I. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

Previous version was approved for the 2008 Standard Specifications. This supplemental clarifies language, corrects references and grammar, and adds hot/cold weather limitations inadvertently excluded from the 2008 standard but drawn from standard 02752 which was approved in the 2008 Standard Specifications.

Priority Explanation

Enter the appropriate priority in the box on the first page of the document.

Priority 1 Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised.

Priority 2 Upon posting, this impacts projects being advertised.

Priority 3 Upon posting, the approved standard takes effect **four weeks** later for projects being advertised.

Review Comments Form

Item No.	Reviewer	Sheet/Section No.	Comment	Review Mtg. Action	Final Action.
1	Tyler Yorgason ACEC	3.4 D and E	The Standards Committee Submittal Sheet noted that one of the changes was to add hot and cold weather limitations, similar to those found in the 02752 PCCP specification. While, there could be specific reasons I am unaware of to have them in both places, it may be preferable to not only make the proposed change to the 03055 spec. but to also remove the duplicate limitations from the 02752 spec. This would eliminate the need to maintain the same information in different specifications and leave only limitations specific to PCCP in the 02752 spec. There was also one other little detail in the 03055 Supplemental you have probably already corrected - the date in the footer has a stray "6" in it.		
			Response: Hot and cold weather limitations most appropriately belong in 03055 as added. Needed here to cover all items, curb and gutter, etc. Will review limitations as currently included in 02752. Footer was corrected.		
2	Nick Peterson UDOT Field Engineer	1.5.A.1	1.5.A.1. has been confusing to our contractors. They think that breaks within the year should be all they need to verify strengths. However, we are requiring new trial batches each year. The spec. to me seems like it states that they should be able to use past history within the year. Am I reading this incorrectly. Should we modify to make it more clear?		
			Response: Mix designs will be approved based on results of trial batches or on history from a UDOT project within the last year.		
3	Todd Laker, Holcim	2.2 C2	As we discussed on the phone this morning, I would suggest deleting the change made to section 2.2 Cement, C. 2. The original language clearly states that 30 percent pozzolan shall not be exceeded and that pozzolan from a blended cement and pozzolan added to a blended cement are to be considered the total pozzolan percentage. The proposed change may cause confusion in regard to the addition of flyash in concrete mixtures utilizing blended cements.		
			Response: Intent of the new language was the same. Language returned to original.		

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

4	Doug Akin, Anthony Sarhan, FHWA		1) 1.5.A.1 - Suggest clarifying as "calendar year" 2) 1.5.A.2 - Are the 2nd and 3rd sentences necessary, or do they belong in this section? 3) 1.5.A.3 - What about ACI certification? 4) Table 1 - 5th column references "Article G". Should be Article H 5) 2.2.A - Why the use of ASTM C 150 instead of AASHTO M85? 6) 2.2.F - Different is capitalized 7) 3.4.A - What about placement when air temperature is over 90 F. 8) 3.4.E - What is definition of Hot Weather for the purposes of this article?		
			Response: 1) Year and "calendar year" are the same thing. 2) Language is necessary to eliminate confusion. Recommend text remains. 3) ACI qualification does not stand alone. A crossover qualification is allowed with ACI, but it requires submittal of proof of qualification after which TTQP qualifications are issued. 4) Corrected. 5) Cement producers provide product according to C150. Differences in the specs exist. 6) Corrected. 7) 3.4.A discusses timing of placement. Changed language to read "60 minute placement above 85 °F" 8) ACI 305 1.2 defines hot weather, but for the purposes of this specification, the references to hot weather conditions and the remedies are specific and need not be further defined.		
5	Scott Nussbaum, Region 1 Materials Engineer		1.5 B, C, and D reference the wrong sections in the same specification. Instead of 2.2, 2.1, and 2.5, it should be 2.3, 2.1, and 2.6.		
			Response: Corrected		
6	Larry Gay		I concur with all changes and upgrades		
			Response: No change		
7	Larry Myers		No concerns.		
			Response: No Change		

Action Code	**A**	**B**	**C**	**D**
	Submitter will Comply	**Submitter to Evaluate**	**Delete Comment**	**Others to Evaluate**

8	Fred Doehring, Structures		I have no concerns at this time.		
			Response: No Change		
9	Mont Wilson, AGC		No concerns.		
			Response: No Change		
10	Kris Peterson, UDOT Construction	1.5 A	Suggest adding : "Furnish to the Resident Engineer and *forward to* the Region Materials Engineer. " Important to have just one point of acceptance.		
			Response: Due to resident engineers' frequent inexperience with mix designs, it is critical that the RME's review the design before the RE accepts. Believe new language establishes that.		
11	Clark Mackay	Full Document	Numerous grammatical corrections		
			Response: Corrected as appropriate		
12	James Cox R3 Materials Engineer	Full Document	No Concerns		
			Response: No change		
13	Jerry Hall Geneva Rock	Full Document	Email and Phone contacts		
			Response: No response		
14	Doug Johnson Ashgrove	Full Document	Contacted – No concerns at this time.		
			Response: No change		
15	Ben Blakenship Ashgrove Cement	Full Document	Contacted – No concerns at this time.		
			Response: No Change		
16	Barry Sharp Research	Full Document	Contacted – No concerns at this time.		
			Response: No change		
17	Deryl Meyhew Resident Engineer	Full Document	Contacted – No concerns at this time.		
			Response: No Change		

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

Standard Drawing/Specification Review Sheet		Review Comments		
Std Dwg/Spec Number	**03055**	Sheet 4	of	4
Date:	**10/09/08**	Facilitator:	**John Butterfield**	

18	Tyler Yourgason	Full Document	Contacted – My only comment is on the cold weather section on page 10. In item number 9 it says to cease operations when the ambient temperature is 45 degrees Fahrenheit and decreasing. I think that it should have room to take measures to heat etc. to keep the ambient temperature around the pour 45 degrees and above. If not how much concrete would be poured around here in the winter time.		
			Response: No Change – Spec requires submittal of a cold weather plan, which should address measures taken to keep ambient temperature at 45 degrees and above.		

19	Daniel C. Noziska P.E.	Full Document	Contacted – Not sure what the UDOT QMP for RMC says (referred to in 1.5.C), but it would be best to state in spec performance criteria. Also the Fritz pack (on site air) is not a good practice and the spec is vague on what conditions it is allowed..		
			Response: No change – Spec was intentionally left open-ended to allow multiple options for ASR testing. Response: On-site air: No change – Spec limits site-added air to **one** addition per load regardless of quantity.		

Action Code	**A**	**B**	**C**	**D**
	Submitter will Comply	**Submitter to Evaluate**	**Delete Comment**	**Others to Evaluate**

Supplemental Specification
2008 Standard Specification Book

SECTION 03055

PORTLAND CEMENT CONCRETE

Delete Section 03055 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Materials and procedures for producing Pportland cement concrete.

1.2 RELATED SECTIONS Not Used

1.3 REFERENCES

A. AASHTO M 6: Standard Specification for Fine Aggregate for Portland Cement Concrete

B. AASHTO M 80: Standard Specification for Coarse Aggregate for Portland Cement Concrete

C. AASHTO M 154: Standard Specification for Air-Entraining Admixtures for Concrete

D. AASHTO M 157: Standard Specification for Ready-Mixed Concrete

E. AASHTO M 194: Standard Specification for Chemical Admixtures for Concrete

F. AASHTO M 295: Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

G. AASHTO T 325: Estimating the Strength of Concrete in Transportation Construction by the Maturity Tests

~~G~~H. ASTM C 150: Standard Specification for Portland Cement

~~I~~H. ASTM C 595: Standard Specification for Blended Hydraulic Cements

J~~I~~. ASTM C 1157: Standard Performance Specification for Hydraulic Cement

KJ. ASTM C 1240: Standard Specification for Silica Fume for Used in Cementitious Mixtures

LK. ASTM C 1567: Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)

ML. ASTM C 1602: Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

NM. American Concrete Institute (ACI) Standards

ON. Precast/Prestressed Concrete Institute (PCI)

PO. UDOT Materials Manual of Instruction

QP. UDOT Minimum Sampling and Testing Requirements Manual

RQ. UDOT Quality Management Plan

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS

A. Furnish to the Resident Engineer and Region Materials Engineer a mix design for each class of concrete to be used.

1. Mix designs will be approved based on results of trial batches or on history from UDOT project(s) within the last year. ~~Base concrete mix designs for all "A" concrete classes on trial batch test results or on UDOT's past project history using the same materials used in previous mix designs within the past year.~~
2. Use the same components in the trial batches that are to be used in the project. Accelerators and site-added air-entrainment can be incorporated in the trial batch but are not required. The Contractor assumes responsibility for the compatibility of ~~these~~ all admixtures with the mix design and their potential effects on concrete properties. ~~including coarse and fine aggregate, water, source and type of cement, air-entraining agent, fly ash, etc., including any site-added admixtures intended to be used.~~
3. ~~Do not exceed 30 percent total pozzolan in any mix unless otherwise specified.~~ Personnel performing and witnessing trial batches, and performing compressive and flexural strength testing, must be UDOT TTQP Concrete and Concrete Strength Testing qualified.
4. The Department or its representative may witness~~es~~ the trial batch.

5. Mix concrete trial batches as specified in UDOT Materials Manual of Instruction Part 8-974: Guidelines for Portland Cement Concrete Mix Design.

6. Compressive and flexural strength testing for verification of trial batches will be performed by an AASHTO accredited laboratory, ~~A~~approved through the UDOT Laboratory Qualification Program.

~~6. Meet the following additional requirements for Self Consolidating Mixes (SCC):~~

~~a. Design and mix according to ACI Manual of Concrete Practice 301: Specifications for Concrete.~~

~~b. Provide mix specific flow and spread criteria.~~

~~c. Meet PCI – TR-6-03. A visual stability index rating of 0 – 1 is required.~~

~~d. Provide compressive strength data.~~

~~e. Include documentation justifying any deviation from the aggregate operating bands required by Table 4 with the mix design for approval. Production may not begin until the deviation is approved.~~

B. Provide t~~T~~est results verifying the coarse and fine aggregate used meets this section, article 2.3

C. For any proposed mix design, provide test results for potential reactivity of coarse and fine aggregates in accordance with the requirements of the UDOT Quality Management Plan for Ready-Mix Concrete

D. When using potentially reactive aggregates in a mix design, provide results from appropriate testing to determine the ability of the combinations of cementitious materials and aggregates to control the reactivity~~2~~

E~~C~~. Submit v~~V~~erification that cement used is from a pre-qualified supplier. See this Section, article 2.2~~1~~, paragraph E.

F~~D~~. Submit v~~V~~erification that fly ash or other pozzolan used i~~s~~n from a pre-qualified supplier. See this Section, article 2.6~~5~~, paragraph A.1.d.

G. ~~E.~~ Submit v~~V~~erification that the batch plant meets the requirements of the UDOT Quality Management Plan for Ready-Mix Concrete.

H. ~~-~~Submit cold and/or hot weather plans as required in Article 3.4, Limitations.

1.6 ACCEPTANCE

A. Acceptance is in accordance with UDOT Minimum Sampling and Testing Requirements.

B. When concrete is below specified strength and does not have a separate strength pay factor:
   1. Department may accept item at a reduced price.
   2. The pay factor will be applied to the portion of the item that is represented by the strength tests that fall below a specified strength.
   3. Department will calculate the pay factor as follows based on 28 day compressive strength:

Psi below specified strength:	**Pay Factor:**
1 – 100	0.95
101 – 200	0.90
201 – 300	0.85
301 – 400	0.80
More than 400	~~0.50 or Engineer may R~~reject

   4. The Engineer may accept a "reject" lot based on an engineering analysis and concurrence from the Region Materials Engineer. If a reject lot is allowed to remain in-place, apply a pay factor of 0.50.

PART 2 PRODUCTS

2.1 CONCRETE CLASSES AND MIX REQUIREMENTS

A. Meet the requirements in Table 1.

Table 1

Concrete Classes and Mix Requirements							
Class	**Coarse Aggregate or Sieve Size**	**Max. Water/ Cementitious Ratio**	**Min. Cementitious Content (lb/yd^3)**	**Slump (Inch) See Article ~~G~~ H for further Criteria**	**Air Content Percent (%)***	**Mix Design Compress *f'cr* (Psi)**	**28 Day Minimum Compress *f'c* (Psi) ****
AA(AE)	2" to No. 4	0.44	564	1 to 3.5	4.0 - 7.0	5200	4000
	1-½" to No. 4	0.44	564	1 to 3.5	4.5 - 7.5	5200	4000
	1" to No. 4	0.44	611	1 to 3.5	5.0 - 7.5	5200	4000
	¾" to No. 4	0.44	611	1 to 3.5	5.0 - 7.5	5200	4000
A(AE)	1-½" to No. 4	0.53	470	1 to 3.5	4.5 - 7.5	3900	3000
	1" to No. 4	0.53	470	1 to 3.5	4.5 - 7.5	3900	3000
	¾" to No. 4	0.48	517	1 to 3.5	4.5 - 7.5	3900	3000
B or B(AE)		0.62	376	2 to 5	-- 3.0 - 6.0	3250	2500

* Values listed represent in-place air content. Make necessary adjustments for impacts to air content due to placement.

** For *f'c* over 4000 psi, design and proportion mixes according to ACI Manual of Concrete Practice 301: Specifications for Concrete and project specific criteria.

B. Minimum strength is based on a coefficient of variation of 10 percent, and one test below the minimum strength per 100 tests.

C. Maximum nominal size of coarse aggregate:
1. Not larger than $^1/_5$ ~~of~~ the narrowest dimension between sides of forms.
2. Not larger than ⅓ the depth of slabs.
3. Not larger than ¾ ~~of~~ the minimum clear distance between reinforcing bars or between bars and forms, whichever is less.

D. Do not exceed water/cementitious ratio.

E. Calculate the water/cementitious ratio (w/c) according to the following formula:

$$\frac{W}{C} = \frac{Water}{Cement + Pozzolan}$$

F. Do not exceed 30 percent total pozzolan in any mix unless approved or otherwise specified.

GF. Use 94 lb additionalmore cementitious material per cubic yard when concrete is deposited in water than the design requires for concrete placed above water.

HG. Use Table 4 1 to determine the slump requirements when not using water-reducing admixtures or viscosity modifying admixtures.

1. Slump requirements when using low range water reducers: 1 inch to 5 inches for all classes of concrete.
2. Slump requirements when using high rRange water reducers: 4 inches to 9 inches for all classes of concrete.
3. Slump requirements when using viscosity modifying admixtures: None. Meet visual stability index of 0 – 1.

2.2 CEMENT

A. Use type II Pportland cement or blended hydraulic cement unless otherwise specified. (ASTM C 150, ASTM C 595, ASTM C 1157)

B. Portland Cement
1. Follow Tables 1 and 3 in ASTM C 150.
2. Follow the requirements of Table 2 of ASTM C 150 for low-alkali cement.

C. Blended Hydraulic Cement.
1. When blended hydraulic cement is substituted for Pportland cement:
   a. Use ASTM C 1567 to verify that expansion is less than 0.1 percent at 16 days.
   b. Refer to the equivalent cements listed in Table 2.
2. Do not exceed 30 percent total pozzolan limit when adding flyash to a blended hydraulic cement.in a blended cement.
   a. Submit documentation of the total pozzolan content with the mix design.

Table 2

Portland Cement/Blended Hydraulic Cement Equivalencies		
ASTM C 150 (Low Alkali)	**ASTM C 595**	**ASTM C 1157**
Type I	IP	GU
Type II	IP (MS)	MS
Type III	-	HE
Type V	-	HS

D. Do not use cement that contains lumps or is partially set.

E. Use cement from the list of UDOT qualified suppliers list maintained by the UDOT Materials Quality Assurance Section.

F. Do not mix cements originating from ~~Different~~ different sources.

G. Do not use air-entrained cement.

H. Department will sample and test the cement in accordance with UDOT Quality Management Plan 502: Cement.

2.3 AGGREGATE

A. Coarse Aggregate for Normal Concrete Mixes
   1. Use coarse aggregate meeting AASHTO M 80 physical properties. Use one of the gradations found in Table 3~~2~~.
   2. Do not exceed 1 percent of deleterious substances as shown in AASHTO M 80, Table 2, for Class A aggregates. Material finer than No. 200 sieve: maximum allowable 1 percent, except~~ion~~ as noted in footnote d.

Table 3

Aggregate Gradations - Percent Passing (by weight)								
Aggregate or Sieve Size (inches)	**2½**	**2**	**1½**	**1**	**¾**	**½**	**⅜**	**No. 4**
2 to No. 4	100	95-100		35-70		10-30		0-5
1½ to No. 4		100	95-100		35-70		10-30	0-5
1 to No. 4			100	95-100		25-60		0-10
¾ to No. 4				100	90-100		20-55	0-10

B. Fine Aggregate for Normal Concrete Mixes
   1. Use fine aggregate meeting AASHTO M 6 physical properties. Use the gradation found in Table 4~~3~~.
   2. Do not exceed 3.0 percent ~~of~~ deleterious substances as outlined in AASHTO M 6, Table 2, for class A aggregates, using option “b” for material finer than the No. 200 sieve. Material finer than No. 200 sieve: maximum allowable 3 percent.

Table 4

Gradation	
Sieve Size	**Percent Passing (by weight)**
⅜ inch	100
No. 4	95 to 100
No. 16	45 to 80
No. 50	10 to 30
No. 100	2 to 10

~~C. Coarse and Fine Aggregate for Self Consolidating Concrete (SCC) Mixes.~~

~~1. Combined gradations of coarse and fine aggregates must be within the bands shown in Table 4. Establish targets and production tolerances necessary to meet the requirements of Table 45.~~

~~Table 5~~

~~Aggregate Gradations (Percent Passing by Dry Weight of Aggregate)~~		
~~Sieve Size~~	~~¾ inch Operating Bands~~	~~½ inch Operating Bands~~
~~¾ inch~~	~~95 – 100~~	~~–~~
~~½ inch~~	~~65 – 95~~	~~95 – 100~~
~~⅜ inch~~	~~58 – 83~~	~~65 – 95~~
~~No. 4~~	~~35 – 65~~	~~50 – 80~~
~~No. 8~~	~~25 – 50~~	~~30 – 60~~
~~No. 16~~	~~15 – 35~~	~~20 – 45~~
~~No. 30~~	~~10 – 35~~	~~12 – 35~~
~~No. 50~~	~~5 – 20~~	~~5 – 20~~
~~No. 100~~	~~1 – 12~~	~~2 – 12~~
~~No. 200~~	~~0 – 2~~	~~0 – 2~~

2.4 WATER

A. Use potable water or water meeting ASTM C 1602, including Table 2.

B. Screen out extraneous material when pumping water from streams, ponds, lakes, etc.

2.5 ADMIXTURES

A. Air Entrainment: as specified. Meet AASHTO M 154, including Section 5.

B. Water Reducing Agents: Meet AASHTO M 194.

1. High Range Water Reducer (HRWR): Submit a written plan for approval with the trial batch that shows proper attention will be given to ingredients, production methods, handling and placing.
2. Do not use calcium chloride.

C. Accelerators: Meet AASHTO M 194
1. Use non-chloride accelerators.

D. Set Retarding Admixtures: Meet AASHTO M 194.
1. Establish the effective life of the set-retarding admixture by trial batch if set retarding admixtures are required due to haul times exceeding the time limitations in this Section, article 3.4, paragraph A.
2. Do not exceed any manufacturer recommendations for the use of the set -retarding admixture.
3. Do not re-dose the concrete with additional set retarding admixture.
4. Add set -retarding admixture at the batch plant at the time of initial batching operations.
5. Show on batch tickets the amount of admixture used.
6. Time of placement is established by the trial batch and supersedes the requirements in this Section, article 3.4, paragraph A.

~~E. Viscosity Modifying Admixtures.~~
~~1. Do not exceed any manufacturer recommendations for the use of the viscosity modifying admixture.~~
~~2. Do not re-dose the concrete with additional viscosity modifying admixture.~~
~~3. Show on batch tickets the amount of admixture used.~~

EF. Site-added air-entrainment~~dmixtures~~. (Meet AASHTO M 154)
~~1.~~ 1. Limit the use of site-added air-entraining agents to one addition (regardless of quantity) per load~~Use admixture in the trial batch.~~
2~~2~~. Use pre-measured admixtures ~~only~~.
3~~3~~. Record amount used on batch ticket.
4~~4~~. Rotate the drum at least 30 revolutions at the mixing speed recommended by the manufacturer.

2.6 POZZOLAN

A. Fly Ash:
1. Class F, as specified. Conform to AASHTO M 295 except table 2.
~~a. Replace a minimum of 20 percent of the portland cement by weight unless otherwise specified. Use the minimum cement content in the design formulas before replacement is made.~~

b. Loss on Ignition (LOI): not to exceed 3 percent.
c. Maximum allowable CaO content: not to exceed 15 percent.
d. Use fly ash from the list of UDOT pre-qualified sources maintained by the UDOT Materials Quality Assurance.
e. Label the storage silo for fly ash to distinguish it from cement.
f. Use different size unloading hoses and fittings for cement and fly ash.

2. Fly ash may be sampled and tested for compliance at any time.

B. Natural Pozzolan (Class N)
1. Conform to AASHTO M 295.
2. May use instead of fly ash provided that the expansion, according to ASTM C 1567, does not exceed 0.1 percent.

C. Silica Fume: Conform to ASTM C 1240.

PART 3 EXECUTION

3.1 PREPARATION

A. Aggregate stockpiles:
1. Construct stockpile platforms so that subgrades are prevented from intruding into aggregates.
2. Build stockpiles at least two days before use.
3. Provide an operator and front-end loader to help the Engineer take aggregate samples.
4. Aggregate may not be accepted ~~in daily increments, but not~~ more than 30 days before use.
5. Provide separate stockpiles for coarse and fine aggregates.
6. Construct stockpiles to minimize segregation of aggregates
7. Allow washed aggregates to drain to uniform moisture content before use (12 hours minimum).

3.2 BATCH MATERIALS

A. Meet AASHTO M 157.

B. Hand Mixing:
1. Only Class B concrete may be hand mixed.
2. Hand-mixed batches cannot exceed 0.5 yd^3.
3. Hand mix on a watertight platform.
4. Spread the aggregate evenly on the platform and thoroughly mix in the dry cement until the mixture becomes uniform in color.

C. Truck-Mixed Concrete (Dry-Batch):
1. Do not load trucks in excess of their rated mixing capacity, or 63 percent of the drum gross volume, or less than 2 yd^3.
2. The truck rating plate must be readable.

3.3 MIX DESIGN

A. Design mixes to meet the requirements of this Section and project specific criteria.
B. Design the cementitious system to mitigate potential alkali-~~aggreagte~~aggregate reactivity.
1. When using fly ash, use a minimum of 20% by weight of the total cementitious system.
C.~~A.~~ Use only concrete mixes that have been approved by the Region Materials Engineer.
D. Obtain concurrence from the Resident Engineer for the project specific application of an approved mix~~Do not place concrete without written approval of the mix design.~~

~~B. Do not change the mix design without written approval.~~

3.4 LIMITATIONS – GENERAL

A. Timing. Unless otherwise specified, place concrete:
1. Within 90 minutes of batching when the air temperature is below 80 degrees F.
2. Within 75 minutes of batching when the air temperature is between 80 and 85 degrees F.
3. Within 60 minutes of batching when the air temperature is ~~between~~ above ~~86~~ 85 ~~and 90~~ degrees F.
4. Prior to initial set.

B. Concrete Temperature: Unless otherwise specified, place concrete ~~in the forms~~ when the concrete temperature is between 50 and 90 degrees F.

C. Pumping and Conveying Equipment
1. Do not use equipment or a combination of equipment and the configuration of that equipment that causes a loss of entrained air content that exceeds one half of the range of air content allowed by specification.
2. Contractor is responsible for verification and monitoring of air loss.

D. Cold Weather: Comply with the following regulations for placing concrete when the temperature is forecast to fall below 40 degrees F within 14 days of placement.

1. Do not use chemical “anti-freeze” additives in the concrete. (Note: This does not apply to normal accelerators.)
2. Provide all necessary cold weather protection for in-place concrete (cover, insulation, heat, etc.)
3. Protect the concrete from freezing until a compressive strength of at least 3,500 psi has been achieved, determined by either:
   a. Maturity method: Refer to AASHTO T 325
   b. Field cure cylinders
4. Adequately vent combustion-type heaters that produce carbon monoxide.
5. When applying external heat, maintain moist conditions to avoid excessive loss of moisture from the concrete.
6. When removing heat, limit the drop in temperature of concrete surfaces to 20 degrees F during any 12-hour period until the surface temperature of the concrete reaches that of the atmosphere.
7. Determine the concrete temperature with a surface thermometer insulated from surrounding air.
8. Do not proceed with the placement of concrete until the temperature of all contact surfaces is 36 degrees F and ambient temperature is ascending
9. Cease operations when the ambient temperature is 45 degrees F and decreasing.
10. Remove and replace concrete damaged by frost action at no additional cost to the Department.
11. Do not use material containing frost or lumps.

E. Hot Weather: Cool all surfaces that will come in contact with the concrete to below 95 degrees F.

3.5 CYLINDER STORAGE DEVICE

A. Provide and maintain cylinder storage device.
   1. Maintain cylinders at a temperature range of 60 degrees F to 80 degrees F for the initial 16-hour curing period.
   2. Do not move the cylinders during this period.
   3. Equip the storage device with an automatic 24-hour temperature recorder that continuously records on a time-temperature chart with an accuracy of ±1 degree F.
   4. Have the storage device available at the point of placement at least 24 hours before placement.
   5. Engineer stops placement of concrete if the storage device cannot accommodate the required number of test cylinders.

6. Use water containing hydrated lime if water is to be in contact with cylinders.
7. A 24-hour test run may be required.

END OF SECTION

Standards Committee Submittal Sheet

Name of preparer: **Fred Doehring**
Title/Position of preparer: **Structures Technical Manager**
Specification/Drawing/Item Title: **Not applicable**
Specification/Drawing Number: **Not applicable**

Enter appropriate priority level: **Not applicable**
(See last page for explanation)
Sheet not required on editorial or minor changes to standards. Check with Standards Section.

NOTES:
1. All Submittal Sheets must be completed and sent to the Standards Section by the Standards Committee suspense date as shown on the Web. (http://www.udot.utah.gov/go/standardscommittee)
2. The Preparer of the Submittal Sheet or the Standards Committee member (or authorized substitute) responsible for the submittal must be present at the Standards Committee meeting and capable of discussing and answering all questions related to the submittal. The item will be postponed to a later meeting if one of these people is not present.
3. Notify the Standards Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

Informational item from UDOT Structures Design concerning the status of development and adoption of new "Bulb Tee Girder Standards."

Background: UDOT currently uses standard AASHTO I girders for precast prestressed concrete girders. It is well known that the new generation of bulb tee girders has better efficiency when compared to AASHTO I girders. The efficiency allows designers to span longer distances with lighter beams and potentially fewer strands. New bulb tee girders will reduce costs when compared to AASHTO girders.

B. Measurement, Payment, Acceptance, and Documentation:

1. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

Not applicable

2. How is Acceptance and Documentation handled? Existing (from the acceptance and documentation document), modified, or new acceptance and documentation to be included with all Standard Specifications or Supplemental Specifications. Include Contractor Submittals, Inspection Elements, and Documentation.

Not applicable

C. Stakeholder Notification for AGC and ACEC:

By email provide the AGC and ACEC Standards Committee member a copy of all pertinent information relating to the specification or drawing. Detail all responses below. Indicate if no comments were received.

Note: There is a two-week response time set for this item.

Refer to the Standards Committee Web site, Members page at http://www.udot.utah.gov/main/f?p=100:pg::::1:T,V:659 for the respective e-mail addresses.

AGC Comments: (Use as much space as necessary.)

Not applicable

ACEC Comments: (Use as much space as necessary.)

Not applicable

D. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

Note: There is a two-week response time set for this item. Allow Stakeholders two weeks to process and respond to coordination requests. All areas should try to complete review and comment as soon as possible but within two weeks.

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

Not applicable

Construction Engineers

Contractors (Any additional contacts beyond “C” above.)

Suppliers

Consultants (as required) (Any additional contacts beyond “C” above.)

FHWA (To be accomplished as part of the two-week process before submitting to the Standards for inclusion on the Standards Committee agenda.) (This is in addition to the requirements of UDOT Policy 08A5-1, procedure 08A5-1.3.)

Others (as appropriate)

E. Other impacted areas, systems, or personnel. (Consider all impacts and possible changes to these areas during the preparation process. Coordinate with all appropriate areas for the respective item. List all impacts and action taken.)

1. Minimum Sampling and Testing Requirements

Not applicable

2. Business Systems (Electronic Bid System, Project Development Business System, Electronic Program Management, Computer-Aided Drafting and Design, etc.)

Not applicable

3. Implementation Plan (Provide detailed instructions on how the subject item will be implemented to include notification of all interested parties and training requirements.)

Not applicable

F. Costs? (Estimates are acceptable.)

1. Additional costs to average bid item price.

Not applicable

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

Not applicable

3. Life cycle cost.

Not applicable

G. Benefits? (Provide details that can be used to complete a Cost – Benefit Analysis.) (Estimates are acceptable.) (If no costs, what is the benefit of making this change?)

Not applicable

H. Safety Impacts?

Not applicable

I. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

Not applicable

Priority Explanation

Enter the appropriate priority in the box on the first page of the document.

Priority 1	Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised.
Priority 2	Upon posting, this impacts projects being advertised.
Priority 3	Upon posting, the approved standard takes effect **four weeks** later for projects being advertised.

Standards Committee Submittal Sheet

Name of preparer: Robert Miles

Title/Position of preparer: Preconstruction and Standards Engineer

Specification/Drawing/Item Title: Lateral Offset to Obstruction FHWA Critical Design Element and treatment of clearzone as a level II deviation from UDOT Standards

Specification/Drawing Number: Not applicable at this time

Enter appropriate priority level: Priority may not be applicable.
(See last page for explanation) **3**

Sheet not required on editorial or minor changes to standards. Check with Standards Section.

NOTES:

1. All Submittal Sheets must be completed and sent to the Standards Section by the Standards Committee suspense date as shown on the Web. (http://www.udot.utah.gov/go/standardscommittee)
2. The Preparer of the Submittal Sheet or the Standards Committee member (or authorized substitute) responsible for the submittal must be present at the Standards Committee meeting and capable of discussing and answering all questions related to the submittal. The item will be postponed to a later meeting if one of these people is not present.
3. Notify the Standards Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

FHWA has made us aware of a recent change in the prescribed critical design elements. A 13th critical element, Lateral Offset to Obstruction, has been added to the previous 12 critical elements. Lateral offset to obstruction has been previously referred to as horizontal clearance and is often confused with the concept of clearzone, preparations are underway nationally to update the existing documentation to use the lateral offset to obstruction terminology. In response to FHWA's notification the Standards and Preconstruction Section has updated the department's design exception and Project Design Criteria (PDC) forms to reflect the change. As we have updated these forms, we have provided the information available from the AASHTO Policy on Geometric Design of Highways and Streets as a definition of Lateral Offset to Obstruction for use as interim guidance. However these definitions are not as clear as we would like, and in some cases contribute to the confusion of lateral offset and clearzone.

In recent documentation produced by the FHWA, lateral offset to obstruction has been defined as "The lateral offset to obstruction is defined as the distance from the edge of traveled way, shoulder, or other designated point to a vertical roadside element. Examples of these elements are curbs, walls, barriers, bridge piers, sign and signal supports, trees, and utility" Mitigation Strategies for Design Exceptions, July 2007. It has further been defined in the same source as

"…a lateral offset to obstruction is not the same as the clear zone. A lateral offset, by definition, deals with objects so close to the roadway that there may be adverse impacts to the operation of the highway. Some examples of these objects include walls, barriers, bridge piers, sign and signal supports, trees, and utility poles." Given these definitions and the need to adopt a state standard we would like to forward the following definition of lateral offset to obstruction.

1. For new construction/reconstruction/widening projects on rural and urban highways without curbs, the minimum lateral offset to obstruction is from the edge of the travel lane to the edge of the shoulder as defined by UDOT's accepted design standards. Narrowing shoulders to accommodate obstructions (e.g., existing bridge piers that will remain in place, utility poles, buildings, etc) will necessitate a design exception for lateral offset to obstruction.
2. For new construction/reconstruction/widening projects on rural and urban highways with curbs, the minimum lateral offset to obstruction is a distance of 1.5 ft behind the face of the curb on tangent sections and 3 ft. on curb radii at intersection. This distance represents an operational offset that permits curbside parking, but does not adversely affect traffic flow. It does not apply to an approved traffic barrier where one is deployed; barriers should be installed at an offset consistent with standard practice.
3. For preservation projects the minimum lateral offset to obstruction is the existing condition or the minimum for new construction/reconstruction, whichever is less.

Because this change in design exception criteria has caused a change to the treatment of the clearzone concept as a design exception/waiver/deviation from UDOT standards, the standards committee will need to take additional action to address the treatment of clearzone issues. As our process stands today projects not meeting clearzone criteria would be documented at the regions as a level II deviation from standards.

The proposed definition of lateral offset to obstruction, if approved, will be incorporated in the UDOT Roadway Design Manual of Instruction and communicated via the design exception and PDC forms. It will be further incorporated into our standards by updated the DD series of drawings depending on feelings of the committee with regards to the treatment of clearzone in our design exception/waiver/deviation process.

B. Measurement, Payment, Acceptance, and Documentation:

1. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.
   Not applicable.

2. How is Acceptance and Documentation handled? Existing (from the acceptance and documentation document), modified, or new acceptance and documentation to be included with all Standard Specifications or Supplemental Specifications. Include Contractor Submittals, Inspection Elements, and Documentation.
   Not applicable.

C. Stakeholder Notification for AGC and ACEC:

By email provide the AGC and ACEC Standards Committee member a copy of all pertinent information relating to the specification or drawing. Detail all responses below. Indicate if no comments were received.

Note: There is a two-week response time set for this item.

Refer to the Standards Committee Web site, Members page at http://www.udot.utah.gov/main/f?p=100:pg:::1:T,V:659 for the respective e-mail addresses.

AGC Comments: (Use as much space as necessary.)

Not applicable

ACEC Comments: (Use as much space as necessary.)

Not applicable

D. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

Note: There is a two-week response time set for this item. Allow Stakeholders two weeks to process and respond to coordination requests. All areas should try to complete review and comment as soon as possible but within two weeks.

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

Refer to Comment Form

Construction Engineers

Refer to Comment Form

Contractors (Any additional contacts beyond “C” above.)

Not applicable.

Suppliers

Not applicable.
Consultants (as required) (Any additional contacts beyond “C” above.)

Not applicable.

FHWA (To be accomplished as part of the two-week process before submitting to the Standards for inclusion on the Standards Committee agenda.) (This is in addition to the requirements of UDOT Policy 08A5-1, procedure 08A5-1.3.)

Refer to Comment Form

Others (as appropriate)

E. Other impacted areas, systems, or personnel. (Consider all impacts and possible changes to these areas during the preparation process. Coordinate with all appropriate areas for the respective item. List all impacts and action taken.)

1. Minimum Sampling and Testing Requirements
   Not applicable.

2. Business Systems (Electronic Bid System, Project Development Business System, Electronic Program Management, Computer-Aided Drafting and Design, etc.)
   Not applicable.

3. Implementation Plan (Provide detailed instructions on how the subject item will be implemented to include notification of all interested parties and training requirements.)
   Training on the addition of Lateral Offset to Obstruction has already been provided to the regions and during our consultant semi-annual visit. Additional implementation of standards committee decisions will be accomplished via additional training sessions and during the spring semi annual visits.

F. Costs? (Estimates are acceptable.)

1. Additional costs to average bid item price.
   Not applicable.

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).
   Not applicable.

3. Life cycle cost.
   Not applicable.

G. Benefits? (Provide details that can be used to complete a Cost – Benefit Analysis.) (Estimates are acceptable.) (If no costs, what is the benefit of making this change?)
Adopting these standards will bring us into full compliance with FHWA's request that we define 13 critical design elements. The provided definition is simple to apply and is based in engineering principles. Any guidance that we can provide for our designers limits confusion and results in more efficient use of time and design effort.

H. Safety Impacts?
Not applicable.

I. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.
Not applicable

Priority Explanation

Enter the appropriate priority in the box on the first page of the document.

Priority 1	Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised.
Priority 2	Upon posting, this impacts projects being advertised.
Priority 3	Upon posting, the approved standard takes effect **four weeks** later for projects being advertised.

Std Dwg/Spec Number		Sheet 1	of	5
Date:		Facilitator:		

Review Comments Form

Item No.	Reviewer	Sheet/Section No.	Comment	Review Mtg. Action	Final Action.
1	Boyd Humphreys		No Comment		A
			Response:		
2	Jared Dastrup		No Comment		A
			Response:		
3	Jessica Rice		I didn't have any comments on the submittal sheet. You defined it very clearly, as far as I am concerned.		A
			Response:		
4	Steve Park		No Comment		A
			Response:		
5	Brent Schvaneveldt		I just have the one typo I think (see attached). I am OK with everything else.		A
			Response: Corrected		
6	Darin Duersch		I don't have any comments at this time.		A
			Response:		
7	Glenn Schulte				
			Response: Has not looked at it but will email Robert back		
8	Paul Vidmar		I think that things look fine. In fact, I think that after reading the material I better understand what the lateral offset is, and what you are trying to do.		A
			Response:		
10	Robert Dowell		No Comment		
			Response:		

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

11	Jared Beard		We feel your definitions for lateral offset work fine and should be added to the MOI and the PDC. We do not think you need to add anything to the DD drawings. By filling out the PDC the designer will need to address the Lateral Offset and if there is a location where he cannot meet the lateral offset as defined in the PDC then a design exception will be required. We feel the DD drawings are cluttered enough without trying to add one more thing to them that does not really add value.		A
			Response: We will take the DD drawing information under advisement. Adding a dimension labeled Lateral Offset to Obstruction will be unlikely to add value to DD drawings.		
12	Bill Townsend		1 - Section A of the form, subparagraph three, first line, replace "in" with "is". The way it reads now the sentence is confusing. 2 - Comparing the definitions for lateral offset to obstruction to the PDC forms, there may be some inconstancy in how the form defines lateral offset to obstruction.		A
			Response: 1- Corrected. 2- We will review and make consistent		
13	Rob Wight Dave Schwartz Lisa Wilson		1- Reword section 1 to read "expressways, the minimum horizontal clearance to crash tested obstructions e.g. breakaway signing, safety shape barrier, guardrail etc. is the edge" 2- Reword section 2 to read "distance of 1.5 ft behind the face of the curb on tangent sections and 3 ft. on curb radii at intersections." 3- Change in to is in section 3		C A A
			Response: After speaking with Dave and Lisa, we decided to remove portion 1 of the comment.		
14	Lisa Baird		I don't have any further comments on this. I'm glad to see the clarification and addition of this happening.		A
			Response:		
15	Robert Westover		No Comment		A
			Response:		

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

16	Scott Andrus		I don't have any concerns on this.		A
			Response:		
17	Brett Slater		My only concern is that too much emphasis will be placed on lateral offset because it's one of the thirteen and exceptions will be made for not providing adequate clear zone. We have a project right now where they want to use this new guided line to leave power poles in place within 8' of the traveled way. I agree with the lateral offset for the curb and gutter sections, I agree on the bases that the fixed object is constant, expected and is usually indicative of slower speeds. On typical sections without curb and gutter the lateral offset should be the clear zone. This way items that are within the recoverable area will be addressed or moved.		D
			Response: I believe the best way to address this issue is the discussion at standards committee. As things stand today failure to obtain clearzone is a deviation from UDOT standard drawings.		
18	Cameron Gay		As I spoke with Jared about the issue he mentioned to me what he commented on and I don't have any additional comments.		A
			Response:		
19	Ken Talbot		I have not comments.		A
			Response:		
20	Daniel Erikson		It looks good. Sounds like this will need some follow-up with standard drawings, etc.		A
			Response:		
21	Randy Jefferies		The submittal sheet covers highways, freeways, and expressways without curb and arterials, collectors, and local streets with curb. What about an urban/rural arterial or collector without curb? Also, it covers new construction, reconstructs, and preservation. What about minor widening (for turn lanes or shoulders) or pavement rehab. projects?		C A

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

			Response: It is my understanding that the terminology highway covers freeways, expressways, arterials, collectors and local roads. I have added widening as a classification of road work and included it under points 1 and 2.		
22	Paul Egbert		I like these 3 bullets to apply only to an urban curb and gutter situation on speed below 45mph. Our current practice is to get a 106' to 110' ROW for urban roads (5-lane). This would effectively limit that to 93'. This makes it hard to justify anything above that for environmental reasons. Also that width is only that wide only because our standards are generous with requiring the following; 12' lanes, 12-14' medians, 8' shoulders, 2.5' C&G, 6' sidewalk. Based on AASHTO and other national publications it could be shrunk down to at least 72'. That is 12'median, 10' lanes, 4'shoulder, 2'C&G, 4' sidewalk. The department needs to set the standard to what is desirable. Then use exceptions/waivers to make Engineering Judgements for less….Not set the standards for the least or near least. We always have the option to do more, BUT have no backing or support to get there. The associated statements seem reasonable for an urban setting with curb and gutter. No current DD drawings would need to be changed. They are only for rural highways. They should NOT be changed. Everyone knows what a 1.5' offset looks like (8' safetyzone is not adequate for Provo Canyon, SR-6, SR-91, SR-89(rural areas), etc….). The real DD drawing that needs done is the urban design which is the main reason for this clarification. As noted Clearzone still applies and should be an emphasis at all times and should only be lessoned with an exception/waiver (Or it will not ever happen, especially if policy supports neglecting it with an easy out. I have yet to see any evidence that would lead to the reasoning of abandoning a safetyzone to shoulder width….especially in non urban non curb and gutter locations.		D D

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

			Response: The proposal at hand is not intended to lessen the importance of clearzone. As is noted in the explanation, "Because this change in design exception criteria has caused a change the treatment of the clearzone concept as a design exception/waiver/deviation from UDOT standards, the standards committee will need to take additional action to address the treatment of clearzone issues.", the intent of this proposal is to address the FHWA requested design exception criteria. Lateral Offset to Obstruction is not intended to be clearzone as is noted in the supporting documentation. We do believe that the Department needs to consider the current treatment of clearzone (level II deviation) because in the past clearzone has traditionally been treated as a design exception.		

23	Bryan Dillon		FHWA does not have any comments regarding the clearance standard.		A
			Response:		

24	John Leonard		Phone Conversation focused on interaction of barrier offset and shoulder. Additional input to follow.		B
			Response:		

25	Roland Stanger		Looks Good		A
			Response:		

Left VM for the following people on 2/3/09:
Betty Purdie, Roland Stanger (FHWA)
Mike Miles, Brandon Cloward, Jim McConnell, John Leonard, Rex Harris

Action Code	A	B	C	D
	Submitter will Comply	Submitter to Evaluate	Delete Comment	Others to Evaluate

Action Item Update for February 26, 2009 Standards Committee Meeting

Item 1, Concrete Specification Requirements for ABC. Stan Burns reported they are making progress on Specification 03339 (Precast Decks). It should be ready for the April meeting.

Item 2, Supplemental Specification 03055, Portland Cement Concrete. Item on agenda for approval.

Item 3, Supplemental Drawing TC 4E, Project Notification Sign and TC 4F, Lane Gain Project Notification Sign. Decision as to need still not made. Item is open with no target date. The original target date was the February meeting.

Item 4, Investigate what other states are doing to be more frugal with projects. No information received. Item will be discussed at the meeting.

Item 5, QIT to look at Standards with goal to make projects more cost effective. Robert Miles reported the item is still being worked and hopes to have more information at the meeting.

End of Agenda Package